

# C-A OPERATIONS PROCEDURES MANUAL

#### **4.31 Procedure for Setting the Access Control System Alternate Critical Devices**

##### **1. Purpose**

To provide instructions for MCR Operators and Operations Coordinators to operate the Access Control System “Feed Forward” (FF) and Alternate Critical Device switches.

##### **2. Responsibilities**

2.1 The Operations Coordinator shall be aware of scheduled use, and testing, as well as the status of the beam or transfer lines and will authorize changes in the status of the switches that determine the active Alternate Critical Device(s).

##### **3. Prerequisites**

3.1 The PC computer security system monitor program shall be running.

3.2 The PASS system is operational

3.3 The scheduled testing and use of SEB & BTA beam lines must be known as well as the current status.

##### **4. Precautions**

4.1 The Alternative Critical Device system shall not be used in lieu of beam line lock out switches to safely disable beam lines or transfer lines.

4.2 IF an SEB beam line is fallow then the Feed Forward switch for its critical device(s) shall be down/off

##### **5. Procedures**

5.1 To choose the effective critical devices for SEB Beam lines, switch critical devices from the normal beamline critical device to the Booster/AGS injection critical device(s).

5.1.1 Use the SEB Feed Forward switch panel at MCR\_2-0QR

5.1.1.1 A toggle switch in the up position (light on) means that the Booster/AGS Injection critical devices substitute for the normal beamline critical device.

5.1.1.2 A toggle switch in the down position (light off) means that the normal beamline critical device acts as the beamline critical device.

- 5.2 To choose the effective critical devices for Booster/AGS injection, switch critical devices from AGS Injection (Booster F6 power supply and DH2-3 power supply) to Booster Injection (BS1 + BS2)
  - 5.2.1 Use the toggle switch at position 14 on the Feed Forward panel at MCR\_2-0QR.
    - 5.2.1.1 Toggle switch 14 in the up position (light on) means that the AGS Injection critical device is LtB BS1 + BS2.
    - 5.2.1.2 Toggle switch 14 in the down position (light off) means that the AGS Injection critical device is Booster F6 power supply and BtA DH2-3 power supply
- 5.3 To choose between LtB and HEBT transfer lines, switch critical devices from LtB BS1 to LtB DH1.
  - 5.3.1 Turn the MJ10 key to the right (keyswitch #1 at MCR\_2-0K) to disable DH1 and allow HEBT operation.
  - 5.3.2 Turn the MJ10 key to the left (keyswitch #1 at MCR\_2-0K) to enable DH1 and allow Booster/LtB operation.
- 5.4 To choose critical devices for RHIC injection, switch critical devices from X+Y arc power supplies to AGS/Booster injection critical devices.
  - 5.4.1 Use the RHIC Alternate Critical Device Selector Switch at MCR\_2-0K
    - 5.4.1.1 Turning the key to the right (keyswitch #3) (XY light lights) results in X +Y arc magnets plus the W line switching magnet as the RHIC injection critical devices.
    - 5.4.1.2 Turning the key to the left (keyswitch #3) (AGS light lights) results in AGS/Booster injection critical devices plus the W line switching magnet as the RHIC injection critical devices.
- 5.5 To Enable High Intensity vs. Low Intensity Proton Operations
  - 5.5.1 Check that either the LTB Beam Stops are closed or that the RHIC critical devices are OFF.
  - 5.5.2 Turn the 683 key to the right (keyswitch #2 at MCR\_2-0K) to enable high intensity operation (opens vacuum valve in LEBT to permit protons from high intensity source to reach the RFQ).

5.5.3 Turn the 683 key to the left (keyswitch #2 at MCR\_2-0K) to disable high intensity operation (closes vacuum valve in LEBT to prevent protons from high intensity source from reaching the RFQ).

5.6 To choose critical devices for BAF, switch device from Booster Extraction (D6 + Beam Plug) to Booster Injection (TtB + LtB Beam Stops).

5.6.1 Use the BAF alternate critical device selector keyswitch at MCR\_2-0K

5.6.1.1 Turn the key to the right to select Booster Injection (TtB + LtB Beam stops) as the BAF critical devices

5.6.1.2 Turn the key to the left to select Booster Extraction (D6 + Beam Plug) as the BAF critical devices.

## 6. **Documentation**

None

## 7. **References**

None

## 8. **Attachments**

None